

CLAIMS

What is claimed is:

1. A distribution network for coupling wireless metropolitan area network signals
between an internetworking device and a plurality of remotely located access
5 points, to provide wireless metropolitan area network service within a
geographic coverage area composed of microcells, the distribution network
making use of available transport cabling, comprising:
 - (a) a plurality of cable access points, each deployed within a
respective one of the microcells, the cable access points each further
10 comprising:
 - i) a wireless metropolitan area network access
point, for receiving wireless metropolitan area network
signals from computing equipment located within the
respective microcell, and converting such signals to local
15 area network compatible signals;
 - ii) an access point remote converter, for receiving
the local area network compatible signals from the
wireless metropolitan area network access point and
converting such signals to transport modulated format
20 signals suitable for transmission over the available
transport cabling; and
 - (b) a head end access point, comprising:
 - i) a head end remote bridge, connected to receive
the transport modulated format signals from the transport
25 cabling, and to convert such signals to local area network
compatible signals.

2. A distribution network as in claim 1 wherein the available transport cabling is a cable television (CATV) plant and the cable access point additionally comprises:
 - iii) a frequency translator, disposed between the access point remote bridge and the transport cabling, for frequency converting digital modulated transport signals produced by the access point remote bridge to a carrier frequency compatible with the CATV plant.
3. A distribution network as in claim 2 wherein the cable access point additionally comprises:
 - iv) a frequency translator that downconverts the wireless metropolitan area network signals used within the respective microcells to the carrier frequency signals compatible with the CATV plant.
4. A distribution network as in claim 1 wherein the head end remote bridge additionally comprises:
 - v) a head end frequency translator, for translating the carrier frequency signals compatible with the CATV plant to wireless metropolitan area network transmission band signals; and
 - vi) a wireless metropolitan area network bridge, for receiving the wireless metropolitan area network transmission band signals and converting them to local area network signals for coupling to the internetworking device.
5. A distribution network as in claim 1 wherein the available analog transport cabling is a twisted pair telephone cabling and the access point remote bridge additionally converts the local area network signals to a digital subscriber line(xDSL) format.

6. A distribution network as in claim 1 wherein the cable access point and head end access point use a cable modem to perform the transport modulation, conversion, and bridging functions.
7. A distribution network as in claim 6 wherein the cable modem is compliant with a cable modem standard selected from the group density of IEEE 802.14, MCNS, or DOCSIS.
8. A distribution network as in claim 1 additionally comprising a local area network hub, for receiving the local area network compatible signals from the head end remote bridge, and forwarding such signals to the internetworking device.
9. A distribution network as in Claim 1 wherein the transport cabling is an analog signal transport medium.
10. A distribution network as in Claim 1 wherein the wireless metropolitan area network signals are compliant with Institute of Electrical and Electronic Engineers (IEEE) 802.16 standard.
11. A distribution network for coupling mobile broadband wireless network signals (e.g. IEEE 802.20) between an internetworking device and a plurality of remotely located access points, to provide mobile broadband wireless service within a geographic coverage area composed of microcells, the distribution network making use of available transport cabling, comprising:
 - (a) a plurality of cable access points, each deployed within a respective one of the microcells, the cable access points each further comprising:

5 i) a broadband mobile wireless network access point, for receiving mobile broadband wireless network signals from computing equipment located within the respective microcell, and converting such signals to local area network compatible signals;

10 ii) an access point remote converter, for receiving the local area network compatible signals from the mobile broadband wireless network access point and converting such signals to transport modulated format signals suitable for transmission over the available transport cabling; and

15 (b) a head end access point, comprising:
 i) a head end remote bridge, connected to receive the transport modulated format signals from the transport cabling, and to convert such signals to local area network compatible signals.

12. A distribution network as in claim 11 wherein the available transport cabling is a cable television (CATV) plant and the cable access point additionally comprises:
20 iii) a frequency translator, disposed between the access point remote bridge and the transport cabling, for frequency converting digital modulated transport signals produced by the access point remote bridge to a carrier frequency compatible with the CATV plant.

13. A distribution network as in claim 12 wherein the cable access point additionally comprises:
25 iv) a frequency translator that downconverts the mobile broadband wireless network signals used within the respective microcells to the carrier frequency signals compatible with the CATV plant.

14. A distribution network as in claim 11 wherein the head end remote bridge additionally comprises:
- v) a head end frequency translator, for translating the carrier frequency signals compatible with the CATV plant to mobile broadband wireless network transmission band signals; and
 - vi) a mobile broadband wireless network bridge, for receiving the mobile broadband wireless network transmission band signals and converting them to local area network signals for coupling to the internetworking device.
- 10 15. A distribution network as in claim 11 wherein the available analog transport cabling is a twisted pair telephone cabling and the access point remote bridge additionally converts the local area network signals to a digital subscriber line(xDSL) format.
- 15 16. A distribution network as in claim 11 wherein the cable access point and head end access point use a cable modem to perform the transport modulation, conversion, and bridging functions.
17. A distribution network as in claim 16 wherein the cable modem is compliant with a cable modem standard selected from the group density of IEEE 802.14, MCNS, or DOCSIS.
- 20 18. A distribution network as in claim 11 additionally comprising a local area network hub, for receiving the local area network compatible signals from the head end remote bridge, and forwarding such signals to the internetworking device.

19. A distribution network as in Claim 11 wherein the transport cabling is an analog signal transport medium.
20. A distribution network as in Claim 11 wherein the mobile broadband wireless network signals are compliant with Institute of Electrical and Electronic
5 Engineers (IEEE) 802.20 standard.